Catalyst Precious Metals Analysis version 2014-10-20

Engine Family	FHALX 123A4V
VIN/Serial No.	L97AEJLD2FZ004672
Task Directive	TD2, Opt 2
Entry Number	ES3-2090853-7
Inspection Number	20150701-0945-02
Catalyst Inspection Date	7/2/2015
Certificate Catalyst Manufacturer	Zhongzi Exhaust Gas Purifier Co., Ltd.
Certificate Catalyst Part Number	ZLATV-0198 4.01
Observed Catalyst Markings	NONE
Catalyst Type (Honeycomb or	
mesh)	Honeycomb

Instrument Used	X-5000 (S/N 202212)
Calibration Curve Name	Metallic Curve 2015-01-16

	M	easured Metal Ratio	08
_	Measured Value (% concentration, by weight)	Measured Value (ppm)	Calculated Ratio from Measurement
Pt"	0.021	209	4.4
Pd	0 268	2,679	55.8
Rh	0.005	48	1.0
Ce	9,530	95,300	THE RESERVE THE PARTY OF THE PA
Ze	0.835	8,354	

Certified Metal Ratios Calculated Loading Calculated Cert Reported Cert
Value (g/L) Ratio Ratio Reported Cert Loading Value Loading Value Units 0 0000 NA 1.4126 0.0000 1.4126

Value to compare against measured Reported Cert Ratio

Ratio Percent Difference (%)



Loading Determination

Sample Extraction Method	Drilled holes
Weight of Extracted Powder (g)	1.09

	Manually Extracted Volume (for loadings)							
Hole #	Orill Bit Diameter (Inches)	Hole Length/Depth (mm)	Hole Volume (mm^3)	Hole Volume (L)				
Hole 1	17/64	59.64	2,132	0.002132				
Hote 2	17/84	59.84	2,132	0.002132				
Hole 3			0	0.000000				
		Total Volume	of Extraction Hotes	0.004265				

		Loading			
8	Extracted Washcoat Powder Weight (g)	Calculated Metals Loading (g/L)	Cert Value - Loading (g/L)	Loadings Percent Difference (%)	
Pt	0.00023	0.053	The same of	No.	
Pd	0.00292	0 685	THE REAL PROPERTY.	189730	
Rh	0 00005	0 012	The Course		
otal	0 00320	0 75041	CONTRACTOR OF THE PARTY OF THE		

Test Conditions 3 runs, 90 seconds each

Check Standards The measured concentrations of all precious metals for all pre- and post-inspection check standards were within their maximum allowable ranges.

The calculated ratio was Pt : Pd . Rh was 4.4 . 55.8 . 1 and the reported certified ratio was than the certified Vall

Result Comments The calculated loading for Pd was.
The calculated total loading

Related Photo(s) DSCN0825.JPG - DSCN0826 JPG

Inspector(s) Aasim Rawoot Report Date 7/2/2015

	Daily Calibration Resu						
•	Check Standard #1	Measured Value (ppm)	NEIC Value (ppm)	Maximum Percent Difference (%)	Percent Difference	Call Status	Comments
Pt [°]	00026	9,576	9,410	11 87%	1.8%	OKAY	
ď	01335	113	144	47.30%	21.5%	OKAY	
₹'n.	1146-1	613	697	13.23%	12.1%	OKAY	
۳.	Daily Calibration Resu	ts (Post Inspection)					
•	Check Standard # ID	Measured Value (ppm)	NEIC Value (ppm)	Maximum Percent Difference (%)	Percent Difference	Call Status	Comments
Pt	00026	9.775	9,410	11.87%	3.9%	OKAY	
٦. ط	01335	108	144	47.30%	25 0%	OKAY	
~. ?h	1146-1	624	697	13.23%	10.5%	OKAY	

Accuracy (mm) 0.02 0.01 0.01

Inset: catalyst casing (side 1) Not measured Not measured Not measured Not measured Not measured ————————————————————————————————————	Catalyst Measurement	Color Coding Legend								
Engine Family FVALX 123A4V UNINCINENT NO. 1377AE/L1/219006972	version 2014-09-123	_	Data Entry Cell	Calculated Cell	Acceptable Pero Calcui	ant Difference ation	Percent Difference	Instrument Calibra	ation Out of Range	
Englise Family PHALX_T23AM Date of Last Simon Calibration SAUGHT CALIBURATION SA	49 17	.53					Daily Cal	bration Results		
Ethy Number FESS-2006983.7 Chargorie Inspection Date 7/1/2015 Certificate Capting Part Number 2017/2015 Langure Capting Capting Part Number 2017/2015 Diameter outside of catalyst casing Cameter notate of catalyst casing Cameter notate of catalyst casing Cameter notate of catalyst casing Not measured Not measured Not measured Not measured Not measured Not preserved Not pr	VIN/Serial No.	L97AEJLD2FZ004	672					04231713)	50 mm End Rod	24.98 50.01
Inspection Number 2015/0716-945-91 Contribute (propertion bear Virtigate) Test Measured Value					-				75 IIIII ENG ROG	74.99
Certificate Caislyst Manufacturer 2000g Enthur 2000g	Inspection Number	20150701-0945-01	=							
See Comments Solid Reasured California			as Purifier Co. 11	rd .	-					
Test Maceured Value (mm) Va	Certificate Catalyst Part Number	ZLATV-019B.4.01	Sao i Gillioi Co., E.	191	-					
Value (mm) Va	Observed Catalyst Markings	NONE			•					
Value (mm) Va										
Claimeter outside of exhaust piping 35.12 35.14 35.07 35.13 35.12 35.14 35.07 35.13 35.12 35.12 35.14 35.07 35.13 35.12 35.12 35.12 35.14 35.07 35.13 35.12 35.14 35.12 35.14 35.12 35.14							Calculated Average Value	Parcent		
Diameter: outside of exhaust piping 35.12 35.14 35.07 35.13 35.12									Certificate Values	
Diameter: outside of catalyst casing Not measured Not measured Not measured Not measured Not measured Not measured Size	Diameter: outside of exhaust piping				35.13		35.12			
Diameter: niatide of catalyst casing 32.44 32.57 32.44 32.46 32.48 32.48 See comments								187 包装建设		
Cestalyst diameter 32.44 32.47 32.46 32.46 32.48 See comments		Not measured	Not measured	Not measured	Not measured	-	_		See comments	
Length: catalyst casing Not measured Not measured Not measured Not measured Greechy Not measured		32.44	32.57	32.44	32.46	. 8	32.48		See comments	
Length: catalyst material Length: catalyst casing (side 1) Not measured directly directly directly directly directly directly directly directly directly substrate (side 1) Not measured Substrate (side 1) 2.25 2.36 2.35 2.30 2.32 Inset: catalyst substrate (side 1) 2.25 2.36 2.37 8.73 Not measured — Not reported — Restimated (side 2) 2.32 8.70 8.73 Not measured — Not reported — Restimated Surface Area of Honeycomb Catalyst — Calk from Measured — Units — Setimated Surface Area of Honeycomb Catalyst — Lake from Cert Values — Not reported — Calk from Measured Values — Not reported — Calk from Measured Values — Not reported — Calk from Measured Values — Not reported — Restimated Surface Area of Honeycomb — Face (sq. mm) — Restimated Surface Area of Honeycomb — Face (sq. mm) — Restimated Surface — — Calk from Cert Values — Calk from Cert Values — Not reported — Calk from Measured Values — Calk from Measured Values — Not reported — Not reported — Set — Calk from Measured Calk from Cert Values — Not reported — Not reported — Set — Calk from Measured — Not reported — Not reported — Set — Calk from Measured — Not reported — Not reported — Set — Calk from Measured — Not reported — Set — Set — Calk from Measured — Not reported — Set — Set — Calk from Measured — Not reported — Set — Set — Set — Calk from Measured — Not reported — Set — Set — Calk from Measured — Not reported — Set — Set — Calk from Measured — Not reported — Set — Calk from Measured — Not reported — Set — Calk from Measured — Not reported — Set — Set — Calk from Measured — Not reported — Se	Length: exhaust piping	70.63	70.59	70.87	70.67	. 9	70.69			
Length: catalyst material Length: catalyst casing (side 1) Not measured directly directly directly directly directly directly substrate (side 1) Not measured	Lengths entered anging	Not messured	Not measured	Not measured	Not messured		_		See comments	
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Inset: catalyst substrate (side 1) 2.25 2.36 2.35 2.30 2.32 Inset: catalyst substrate (side 2) 8.72 8.70 8.74 8.73 Counted cells (total) 128 Volume cc 49.41 Not reported Coulisfin² 99.68 PAIR Observed? (Y/N) Y PAIR Photo Name Calk from Measured Units Calk from Calk from Cert Values Values Calk from Cert Values Difference Values The cert. app reports dimensions on casing on 123.5 The cert. app reports dimensions on calls/min² Comments The cert. app reports dimensions on calls/min² Lotted control of the certified dimensions.	Length: catalyst material					- 9	59.64		See comments	
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Inset: catalyst substrate (side 2) 8.72 8.70 8.74 8.77 8.73 Counted cells (total) 128 volume cc 49.41 Not reported cells/in² 99.68 PAIR Observed? (Y/N) PAIR Photo Name DSCN0795.JPG Estimated Surface Area of Honeycomb Catalyst Calk from Measured Calk from Cert Values Values Values Values Difference Face (sq. mm) 528 Area of One Claq, mm) 79.675 - Cells (rm) Radius of Radiu	Inset: catalyst casing (side 2)	Not measured	Not measured	Not measured	Not measured		-			
Counted cells (total) 128	Inset: catalyst substrate (side 1)	2.25	2.36	2.35	2.30	- 8	2,32			
Avgas inside diameter of casing (in) 1.28 cells/in² 99,88 PAIR Observed? (Y/N) Y PAIR Photo Name DSCN0795.JPG Estimated Surface Area of Honeycomb Catalyst Calk from Measured Values Values Values Values Values Values Values Values Values Qualiference Face (sq. mm) 828 Area of One Radius of Semi-Circle 2.03 Comments The cert. app reports dimensions of Casing or substrate. Areas of Concern All measured values are withing of the certified dimensions.	Inset: catalyst substrate (side 2)	8.72	8.70	8.74	8.77	_ :	8.73			
Avgas inside diameter of casing (in) 1.28 cells/in² 99,88 PAIR Observed? (Y/N) Y PAIR Photo Name DSCN0795.JPG Estimated Surface Area of Honeycomb Catalyst Calk from Measured Values Values Values Values Values Values Values Values Values Qualiference Face (sq. mm) 828 Area of One Radius of Semi-Circle 2.03 Comments The cert. app reports dimensions of Casing or substrate. Areas of Concern All measured values are withing of the certified dimensions.										
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PAIR Photo Name DSCN0795.JPG	Avgas inside diameter of casing (in)	1.28	-			cells/in²	99.68			•
Estimated Surface Area of Honeycomb Catalyst Calk from Measured Calk from Cert Percent Honeycomb Units Values Values Difference Face (sq. mm) 828 Area of One Celt (sq. mm) 6.47 Radius of Radius of Semi-Circle 2.03 Comments The cert. app reports dimensions of cells/mm² Areas of Concern All measured values are within of the certified dimensions.	PAIR Observed? (Y/N)	Y	_			Certified with F	PAIR (Y/N)?			
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Comments casing or substrate. Areas of Concern All measured values are within the certified dimensions.		The cert, and repo	orts dimensions of		but does	not clearly state	whether it is for the catalyst	-		
Areas of Concern All measured values are within the certified dimensions. Photo Used for Counts DSCN8022 - Cell Count JPG	Comments	casing or substrat	е.	111/2-12				2		
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Inspector: Aasim Rawoot Report Date: 7/2/2015										